

SOUKOS Group Of Companies



SOUKOS ROBOTS



Soukos Environmental



Industrial Robots

W2E Conversion Technology





Solid Waste Management Committee

Integrated Waste Management Task Force

Los Angeles County

Agenda

1. Soukos Robots and Theseustm Introduction
2. Video
3. System Outputs
4. Technology Description
5. Comparative Advantages



Theseustm



What Theseustm Does

- CONVERTS waste to energy
 - PREVENTS GHGs and pollution from 'Closed and Cold' tech
 - SEPARATES, CLEANS, SORTS, COMPRESSES recyclables
 - CONVERTS non-recyclables into MULTI PURPOSE pellets
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- **Related Soukos technologies convert pellets into building materials, biodiesel and electricity**



Theseustm Video



Output Fiber and Pellets



Fig. 1
Fibrous material similar
in texture to cotton



Fig. 2
Molded sterilized pellets
for stabilization and
volume reduction

Output Engineered Products



Fig. 3

Output Energy Resources



Fig. 4
Biodiesel

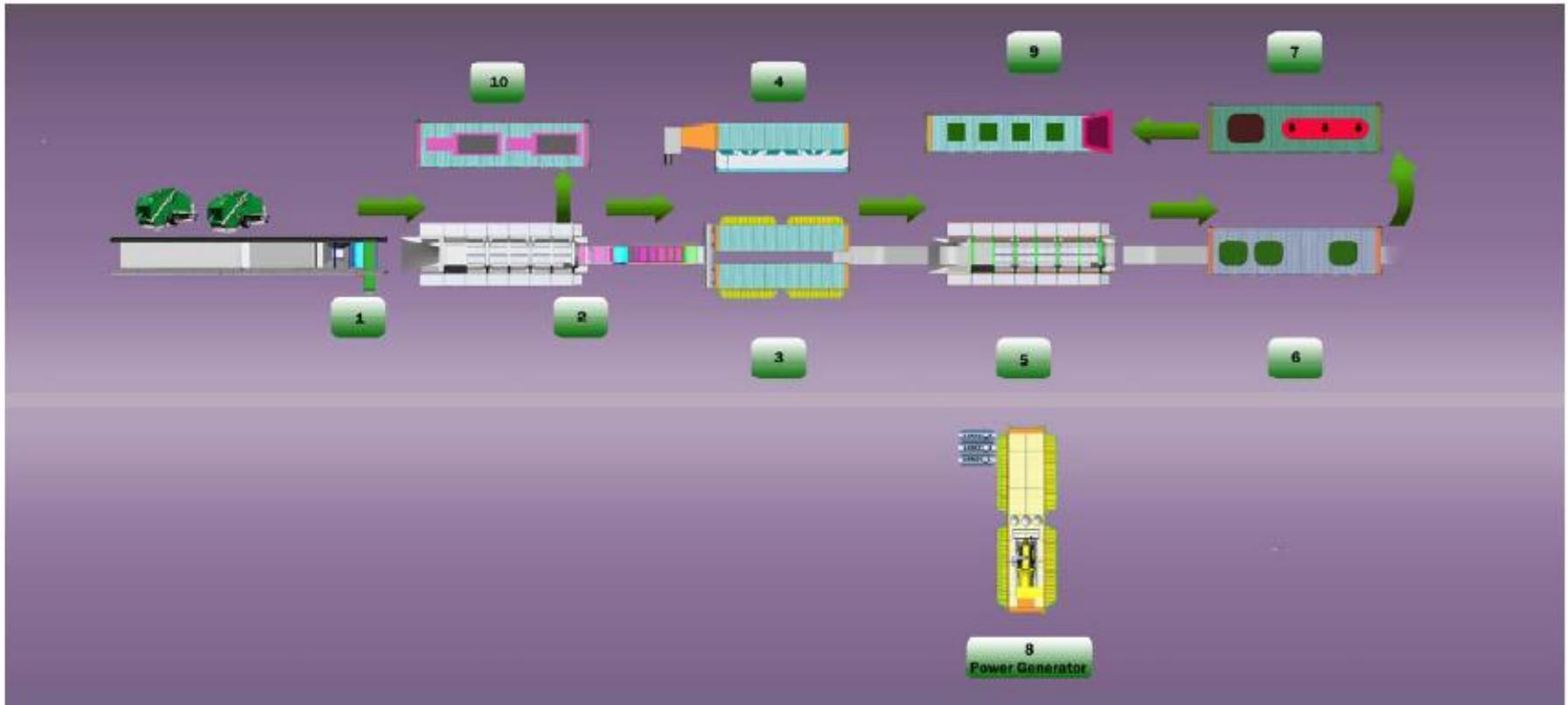


Fig. 5
Electricity

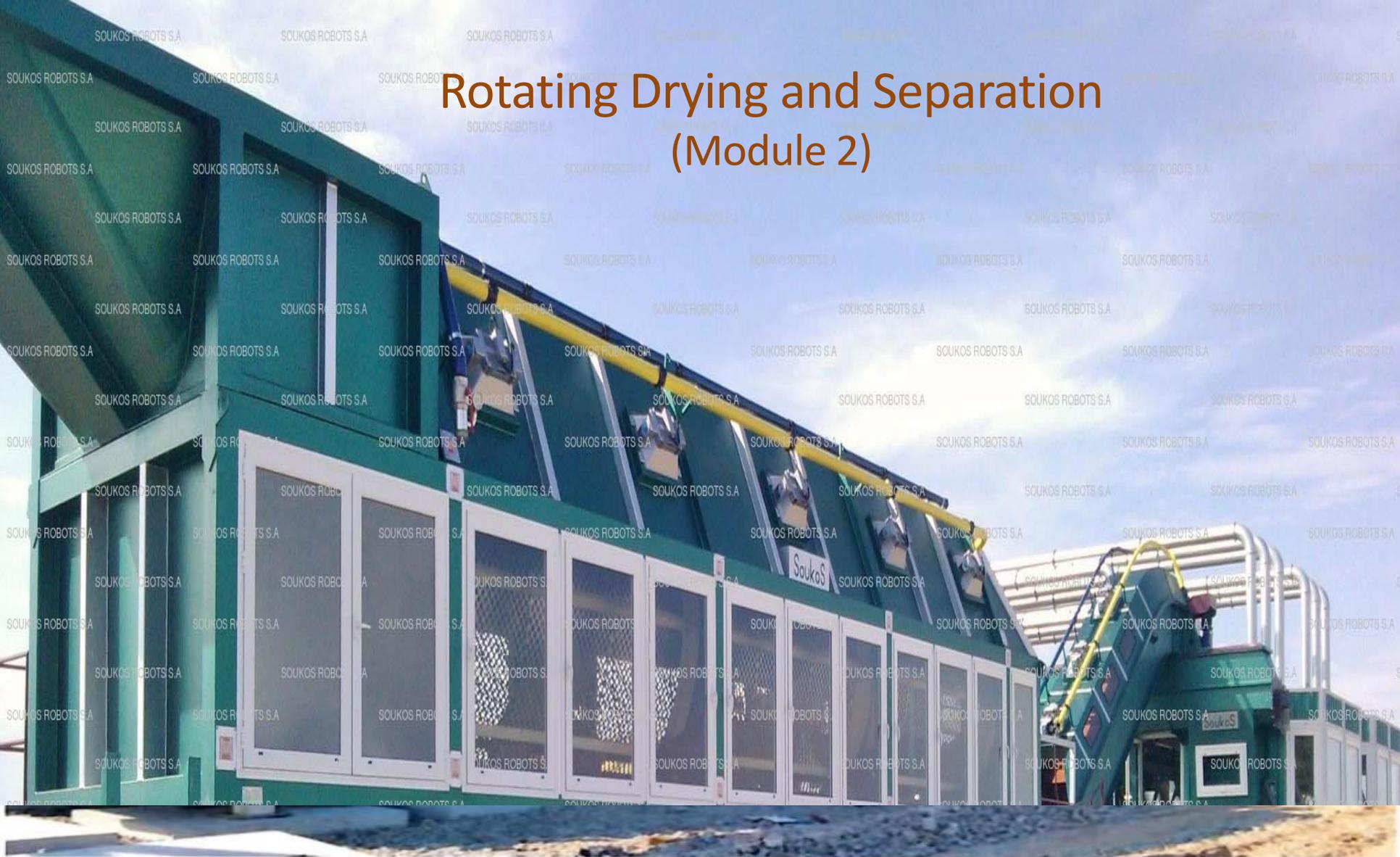
Theseustm Modules

1. Feeding Hopper with Redler Conveyor
2. Rotating Drying and Separation Unit
3. Recycling Center (comprising of 2 Recycling Units)
4. Storage reservoirs for the recovered materials
5. Hydraulic Baling Pressure Unit
6. Rotating Drying Unit
7. Waste Homogenization Unit
8. Stabilization & Pelletizing Unit
9. Power Generator and Control Room
10. Pellet Cooling Chamber

Theseus System Layout



Rotating Drying and Separation (Module 2)



Recycling Center-exterior (Module 3a)



Recycling Center- interior (module 3b)



Storage Reservoirs (Module 4)



Hydraulic Baling Pressure Unit (Module 5)



Rotating Dryer (Module 6)



Waste Homogenization (Module 7)



Stabilization and Pelletizing (Module 8)



Control Room (Module 9a)



Optional Power Generator (Module 9b)



Pellet Cooling Chamber (Module 10)

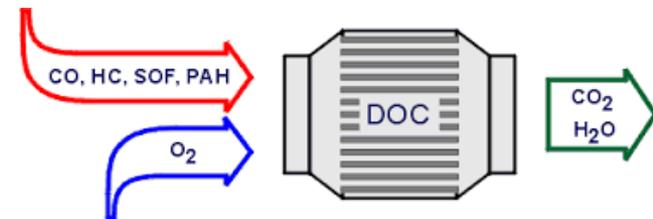


Advantages Over Existing Conversion Technologies

- **VS. Thermal (Mass Burn)**

Pro – Fast, reduces MSW volume, cheap, small area needed, produces energy

Con – Smoke stacks, GHGs/toxins, residual ash to landfill, constant maintenance, spare parts/filters needed, negative public perception



- **VS. Chemical/Biological (Pyrolysis/Catalysts/Vaporization/Digestion)**

Pro – Produces fuels, reduces MSW volume

Con – high cost, maintenance, monitoring, limited MSWs, need for high cost chemical analyses, limited output



Residential MSW Composition

Component	Percentage (%) by Volume*
Organics	~ 39
Paper – Cardboard/Packaging	22 – 29
Plastics	8-14
Metals	4-4.5
Glass	2-4
Rocks, Bricks	1-3
Other	5

Benefits to Los Angeles County

- **SAVES** money; low tipping fee
- **ACCEPTS** 100% of residential waste stream/green waste
- **HIGH CAPACITY**
- **FACILITATES** recycling
- **NO GHG EMISSIONS** or other pollutants
- **NO** new landfilling
- **REDUCES** dependence on imported fossil fuels
- **MEETS** and exceeds* California's strict environmental standards
- **LOW COST, EASY** to implement
- Helps achieve LA's landfill diversion goal of 90% by 2025

* Based on absence of GHGs and other pollutants



Q&A

For more information, please contact:

Charles Everett, MPH
Business Development
Soukos Environmental USA
(925)-890-8447
ceverett@soukosrobotsusa.com